Preferred hosts of the gypsy moth are oak, apple, alder, aspen, basswood, hawthorn, willow, and gray and river birch. The insects also attack other birches, beech, cherry, black gum, hemlock, hickory, hornbeam, larch, maple, pine, sassafras, and spruce. Species not favored by the gypsy moth include ash, balsam fir, butternut, black walnut, catalpa, red cedar, dogwood, holly, locust, sycamore, and tulip poplar.

LOCATION AND SPREAD

Since the first gypsy moth infestation more than 100 years ago, the pest has spread to all six New England states—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut. In recent years this spread has occurred through New Jersey and into parts of New York, Pennsylvania, Maryland, and Delaware. A portion of central Michigan is also lightly infested.

Although gypsy moths spread naturally, they are also carried long distances by hitchhiking with goods and people. Recreational vehicles and outdoor household effects moved from infested to uninfested areas are potential sources of spread.

To stop gypsy moth hitchhiking, owners should check the undersides and exterior areas of motor homes and travel trailers. Homeowners should check all outdoor furniture, toys, and firewood before moving from infested areas. Any egg masses, caterpillars, pupae, or moths found should be removed and destroyed.

CONTROLS

State, Federal, and local governments cooperate in limiting gypsy moth spread. Combinations of several control methods are often used to achieve the best possible blend of effective control and environmental protection. In general, pesticides are applied only when severe defoliations are predicted. Non-pesticidal methods are usually used where light-to-moderate insect populations exist.

The main methods of limiting the spread of the gypsy moth and its damage are:

- Quarantines—USDA and related State quarantines are enforced to restrict movement of timber and timber products, woody plants and nursery stock and other hazardous articles to keep gypsy moths from hitchhiking to new areas.
- Parasites—hundreds of thousands of natural enemies are reared each year then released to attack and destroy various stages of the gypsy moth. These parasites were originally imported from foreign countries where they are some help in keeping gypsy moth numbers down. Parasite species are carefuly screened prior to introduction to make certain they will not endanger beneficial insects and the U.S. ecology.
- Sex attractant—a synthetic material was developed to duplicate the scent female gypsy moths release to lure males. Widescale spraying of the synthetic to confuse male moths enough to inhibit mating is being tested.
- Bacterial insecticide—a commercial formulation of a naturally occurring disease of gypsy moths is applied with limited effect to knock down moderate insect populations.
- Pesticides—several chemical products are registered with the Environmental Protection Agency and are used to protect trees and stop artificial spread by hitchhiking insects.

LIFE CYCLE

The gypsy moth has four stages—egg, larva (caterpillar), pupa (cocoon), and moth. It has one generation a year, overwintering in egg masses attached to trees, stones, walls, logs, and other outdoor objects. Each gypsy moth egg mass contains up to 1,000 eggs and is covered with buff or yellowish hairs from the abdomen of the female. The velvety egg masses average about 1½ inches long and about ¾ inch wide.

Eggs begin hatching in late April or early May. The brownish, hairy caterpillars are easy to identify when about halfgrown by pairs of red and blue dots on their backs. Mature caterpillars are from 1½ to 2½ inches long.

Caterpillars enter the pupal or "cocoon" stage late in June or early in July, emerging from their dark brown pupal cases in 10 to 14 days as moths. Males have dark brown forewings and a 1½ inch wingspread. Female moths are white with a wingspread of about 2 inches.

The pests do not feed in the moth stage, but only mate and lay eggs. Depending on weather and location, eggs are laid between July and September.

GYPSY MOTH

A MAJOR PEST OF TREES

The gypsy moth is a foreign insect that has become one of the United States' most important forest pests. Although harmless in the moth stage, the caterpillars feed on the leaves of shrubs and trees. A single defoliation can kill some softwood trees; two or more defoliations can kill many types of hardwoods.

Gypsy moths became established in this country in 1869, after specimens imported from Europe escaped from a laboratory in Massachusetts. The gypsy moth became a pest because this country did not have the natural enemies that help keep the pest in check in Europe and Asia.

Infestations containing millions of caterpillars can strip whole forests in a matter of days. However, only a small percentage of the millions of trees stripped each year actually die. Most put out new leaves. But even a single defoliation may seriously weaken a tree, making it susceptible to secondary attack by other insects or plant diseases. Furthermore, hordes of chewing caterpillars impair the beauty and recreational value of forests, parks and wooded homesites.

Repeated years of destructive feeding can result in startling numbers of tree deaths. In 1968, for example, gypsy moth infestations were observed for the first time in the Newark, N.J. watershed. Over the next two summers, nearly 18,000 acres of trees sustained repeated 75 to 100 percent defoliations on nearly all susceptible tree species. By 1971, New Jersey foresters reported more than 1,000,000 oaks, 39,000 eastern hemlocks, and 8,000 white pines killed as a direct result of gypsy moth feeding.

GYPSY MOTH
A MAJOR PEST OF TREES

FEMALES LAYING EGGS

EGGS

CATERPILLAR

CATERPILLARS PUPATING

COCOONS

COCOONS

ADULT MALE

ADULT FEMALE

CATERPILLAR

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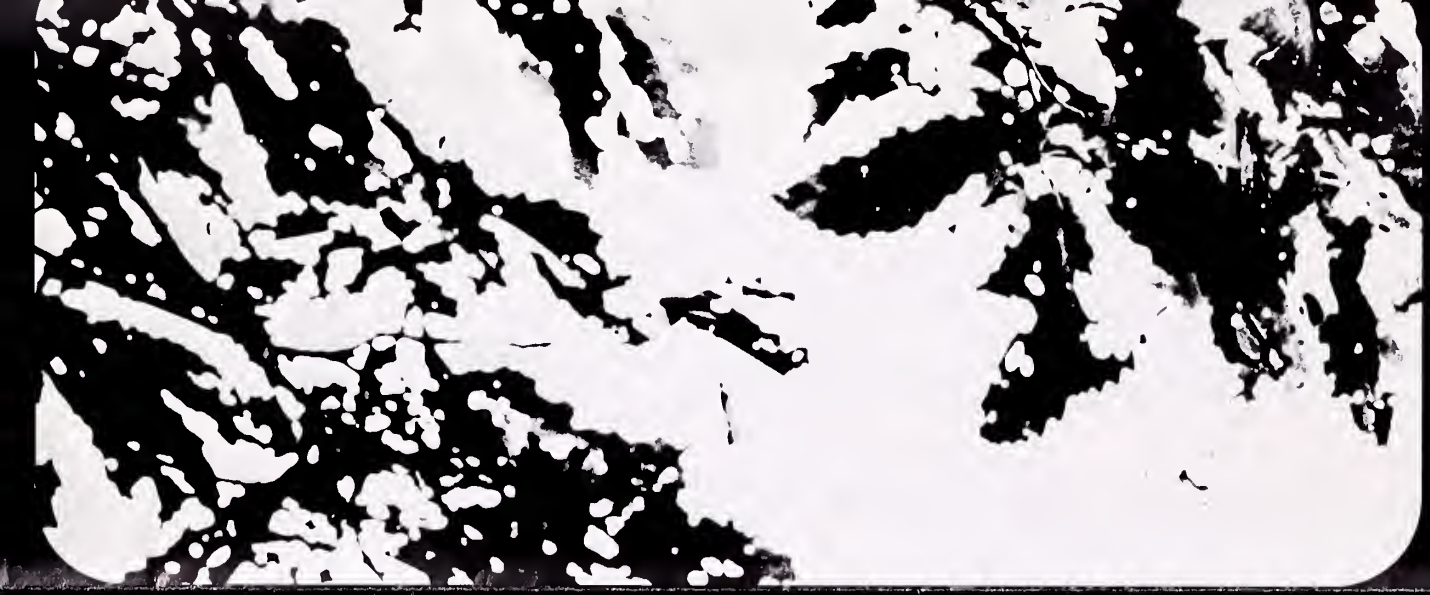

GYPSY MOTH

A MAJOR PEST OF TREES

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